

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1-22. (Cancelled)

23. (New) A kit for exponentially amplifying, *in vitro*, a circular nucleic acid molecule, wherein said kit comprises a container, said container containing:

- (A) a plurality of single-stranded polynucleotide primers, each of said primers having a 3' terminus and the ability to hybridize to said circular nucleic acid molecule or to a complement thereof; and
- (B) a polymerase having the ability to extend, in a complementary base-pairing manner, said 3' terminus of at least one of said primers hybridized to said circular nucleic acid molecule or to said complement thereof so as to form a primer extension product having a length greater than the length of said circular molecule.

24. (New) The kit of claim 23, wherein said primers comprising more than three nucleotide residues.

25. (New) The kit of claim 23, wherein said polymerase is a strand-displacing polymerase.

26. (New) The kit of claim 23 further comprising a strand-displacing agent that facilitates said polymerase to form said primer extension product.

27. (New) The kit of claim 23 further comprising an agent for circularizing said nucleic acid molecule.

28. (New) The kit of claim 27, wherein said agent is a ligase.
29. (New) The kit of claim 27, wherein said agent is a recombinase.
30. (New) The kit of claim 23 further comprising a restriction endonuclease.
31. (New) The kit of claim 23, wherein said circular nucleic acid molecule is single-stranded.
32. (New) The kit of claim 23, wherein said circular nucleic acid molecule is double-stranded.
33. (New) A kit for exponentially amplifying, *in vitro*, a circular nucleic acid molecule, wherein said kit comprises:
 - (A) a first container containing a plurality of single-stranded polynucleotide primers, each of said primers having a 3' terminus and the ability to hybridize to said circular nucleic acid molecule or to a complement thereof; and
 - (B) a second container containing a polymerase having the ability to extend, in a complementary base-pairing manner, said 3' terminus of at least one of said primers hybridized to said circular nucleic acid molecule or to said complement thereof so as to form a primer extension product having a length greater than the length of said circular molecule.
34. (New) The kit of claim 33, wherein said primers comprising more than three nucleotide residues.
35. (New) The kit of claim 33, wherein said polymerase is a strand-displacing polymerase.
36. (New) The kit of claim 33 further comprising a strand-displacing agent that facilitates said polymerase to form said primer extension product.

37. (New) The kit of claim 33 further comprising an agent for circularizing said nucleic acid molecule.
38. (New) The kit of claim 37, wherein said agent is a ligase.
39. (New) The kit of claim 37, wherein said agent is a recombinase.
40. (New) The kit of claim 33 further comprising a restriction endonuclease.
41. (New) The kit of claim 33, wherein said circular nucleic acid molecule is single-stranded.
42. (New) The kit of claim 33, wherein said circular nucleic acid molecule is double-stranded.
43. (New) A kit for exponentially amplifying, *in vitro*, a circular nucleic acid molecule, wherein said kit comprises a container, said container containing:
- (A) a plurality of single-stranded polynucleotide primers, each of said primers having a 3' terminus and the ability to hybridize to said circular nucleic acid molecule or to a complement thereof; and
 - (B) a polymerase having the ability to exponentially amplify said circular nucleic acid molecule under a substantially constant temperature so as to form a primer extension product having a length greater than the length of said circular molecule.
44. (New) The kit of claim 43, wherein said polymerase having the ability to exponentially amplify said circular nucleic acid molecule under substantially constant reaction conditions.
45. (New) The kit of claim 43, wherein said primers comprising more than three nucleotide residues.

46. (New) The kit of claim 43, wherein said polymerase is a strand-displacing polymerase.
47. (New) The kit of claim 43 further comprising a strand-displacing agent that facilitates said polymerase to form said primer extension product.
48. (New) The kit of claim 43 further comprising an agent for circularizing said nucleic acid molecule.
49. (New) The kit of claim 48, wherein said agent is a ligase.
50. (New) The kit of claim 48, wherein said agent is a recombinase.
51. (New) The kit of claim 43 further comprising a restriction endonuclease.
52. (New) The kit of claim 43, wherein said circular nucleic acid molecule is single-stranded.
53. (New) The kit of claim 43, wherein said circular nucleic acid molecule is double-stranded.
54. (New) A kit for exponentially amplifying, *in vitro*, a circular nucleic acid molecule, wherein said kit comprises:
 - (A) a first container containing a plurality of single-stranded polynucleotide primers, each of said primers having a 3' terminus and the ability to hybridize to said circular nucleic acid molecule or to a complement thereof; and
 - (B) a second container containing a polymerase having the ability to exponentially amplifying said circular nucleic acid molecule under a substantially constant temperature so as to form a primer extension product having a length greater than the length of said circular molecule.

55. (New) The kit of claim 54, wherein said polymerase having the ability to exponentially amplify said circular nucleic acid molecule under substantially constant reaction conditions.

56. (New) The kit of claim 54, wherein said primers comprising more than three nucleotide residues.

57. (New) The kit of claim 54, wherein said polymerase is a strand-displacing polymerase.

58. (New) The kit of claim 54 further comprising a strand-displacing agent that facilitates said polymerase to form said primer extension product.

59. (New) The kit of claim 54 further comprising an agent for circularizing said nucleic acid molecule.

60. (New) The kit of claim 59, wherein said agent is a ligase.

61. (New) The kit of claim 59, wherein said agent is a recombinase.

62. (New) The kit of claim 54 further comprising a restriction endonuclease.

63. (New) The kit of claim 54, wherein said circular nucleic acid molecule is single-stranded.

64. (New) The kit of claim 54, wherein said circular nucleic acid molecule is double-stranded.